IN THE SPECIFICATION:

The paragraph beginning at page 4, line 20 has been amended as follows:

--More specifically, the radius r_a of the inscribed circle defined by the inner ends of the vanes and the radius r_c of the cathode surface which both are determined by the foregoing equation (1) are measured at a point where the magnetic flux density is maximum along the axial direction of the cathode and the height of the vanes. Also, the anode and the cathode are arranged to satisfy at least either (i) increasing the radius of the inscribed circle defined by the inner ends of the vanes to r_a, or (ii) decreasing the radius of the cathode surface to r_c, at a point where the magnetic flux density for both cases (i) and (ii) is minimum along the axial direction of the cathode and the height of the vanes.--

Please amend the paragraph beginning at page 5, line 9 as follows:

--The construction of the pulse magnetron allows the distance between the cathode and the anode at the axial ends of the cathode (the vanes) where the magnetic flux density is maximum to be determined from the minimum of the magnetic flux density along the height of the vanes in the axial direction of the cathode in the interaction space. Also, the inner diameter of the anode and/or the outer diameter of the cathode are adjusted so that the distance between the anode and the cathode increases corresponding to the magnetic flux density which is decreased towards the center of the cathode. As the result, the pulse magnetron can be increased in ~~the~~ impedance thus minimizing the generation of

unwanted oscillation at an anode voltage lower than its rated level. When the anode voltage of pulse form is applied, the oscillation starts with the rated level at each pulse in the π mode and its output spectrum can favorably be symmetrical to the main lobe. More particularly, the pulse magnetron can have characteristics close to their theoretical measurements while not exhibiting ~~no~~ an unwanted frequency profile.–

The paragraph beginning on page 8, line 11 is amended as follows:

--The embodiment shown in Fig. 1 permits the radius of the cathode 2 to be smaller at the center than at the axial ends, then providing a concave form in the longitudinal cross section. Fig. 4 is a schematic view showing the dimensional relationship between the cathode and the anode including cathode 2, anode vanes 12 and strap 14. More particularly, as shown in Fig. 4, the radius r_c at the axial ends of the cathode 2 is determined with the radius r_a at the inner side of the anode 1 (the inscribed circle defined by the inner ends of the vanes 12) and the magnetic flux b in the interaction space 4 to satisfy the foregoing equation (1). As the radius r_c' at the center of the cathode 2 is smaller than the radius r_c at the axial ends, the cathode 2 is distanced more at the center than at the axial ends from the inner ends of the vanes 12. The magnetic flux b in the equation (1) is defined as the minimum of the magnetic flux B in the interaction space by the magnetron operation theory, "The basic of microwave technology" by Makimoto et al, Hirokawa Shoten, 1980, twelfth edition, p. 278, formula 10.28~~)~~. The radius r_a of the anode and the radius r_c of the cathode in the equation (1) are determined so that the

magnetic flux is maximum along the vanes in the axial direction of the anode. This permits an offset from the theoretical operation to increase of the distance between the cathode and the anode.--

The paragraph beginning on page 9, line 3 is amended as follows:

--More particularly, the radius r_c' at the center in the axial direction of the cathode 2 is set with r_c'/r_a smaller by 9.1 % than r_c/r_a (r_c'/r_c being 90.9 % or more). This is explained below. Fig. 2 is a diagram showing an equivalent magnetic flux density profile adjacent to the interaction space in the magnetron including cathode 2, pole peace 3, interaction space 4, wherein showing equal magnetic flux lines 1B and 0.88B, which correspond to 100% and 88% of flux density B, respectively. As shown with the equivalent magnetic flux density profile in Fig. 2, the magnetic flux at the center of the cathode 2 in the interaction space 4 in the magnetron of Fig. 1 is equal to 88 % of that at the axial ends. When the radius at the center of the cathode 2 is equal to that at the axial ends, the magnetic flux becomes smaller at the center thus allowing the operation to start at a lower level of the anode voltage. More particularly, the oscillation starts at the center in the axial direction when the pulsed anode voltage is increased. Accordingly, the generation of spurious radiation will occur at lower frequencies than the fundament oscillation frequency at the rise of each pulse signal.--

The paragraph beginning on page 11, line 5 is amended as follows:

-- Fig. 3 illustrates the oscillation output spectrum

of the pulse magnetron according to the present invention, wherein vertical axis shows output level in dB and horizontal axis shows frequency in MHz. As apparent from Fig. 3, the oscillation occurs at the π mode fundamental frequency while no undesired profile is shown in both sidebands. The fundamental oscillation frequency is 9410 MHz in Fig. 3.--

The paragraph beginning on page 11, line 10 is amended as follows:

--The fact that r_c'/r_a at the center is smaller by 9.1 % than r_c/r_a at the axial ends is determined by the foregoing equation (1) when the magnetic flux density, as shown in Fig. 2, at the center is 88 % (i.e., 0.88 B) of the magnetic flux density at the axial ends of the cathode 2. The magnetic flux density may be varied depending on the structure of the magnetron and the shape of and the distance between the pole pieces. However, with the magnetic flux density remaining described as above, the spectrum profile can equally be improved when the cathode 2 is arranged to a concave shape so that r_c'/r_a is smaller by simply 0.3 % than r_c/r_a. Accordingly, the distance between the anode and the cathode is not necessarily modified to match the profile of the magnetic flux density. Also, the pulse magnetron used in a radar system has generally a profile of the magnetic flux density where the smallest is 88 % or more of the maximum. Accordingly, when r_c'/r_a is smaller by 9.1 % to 0.3 % than r_c/r_a, the output spectrum can be improved hence minimizing the generation of spurious radiation. Also, the concave shape of the cathode may be implemented using a quadratic function curve, a combination of linear lines in a sequence or the various figuration. Moreover, the radii may be varied ~~not continuously but~~ in steps instead of continuously.--

The paragraph beginning on page 12, line 2 is amended as follows:

-- As described, the radius of the cathode 2 is smaller at the center in the axial direction than at the axial ends thus to inhibit the oscillation at a current smaller than the rated level. As long as the cathode is modified in the radius, the anode may be formed integrally by providing slots. This allows the distance between the anode and the cathode to be easily adjusted to a desired length without changing the inner radius of the anode. Since the distance between the anode and the cathode is dependent on the profile of the magnetic flux density, the inner diameter of the anode at the center in the axial direction where the magnetic flux density is low may be increased for providing the equal effect. This arrangement is shown in Fig. 6 where the positional relationship between the anode 1 (including vanes 12 and strap 14) and the cathode 2 in the neighborhood of interaction space 4 is equal to that shown in Fig. 4.--